

### **ABSTRACT OF THE DISCLOSURE**

A channel estimation apparatus in a digital communication system is disclosed, which includes: a correlation unit for obtaining a correlation function of a first received signal by means of a correlation between a received synchronizing signal and a reference synchronizing signal, and obtaining a correlation function of the received synchronizing signal by a correlation between the synchronizing signals, a first estimating unit for estimating a first multi-path by applying a first threshold value to the correlation function of the first received signal, a correlation noise removing unit for obtaining a correlation function of a second received signal by removing correlation noise included in the correlation function of the first received signal, by a first multi-path, and a second estimating unit for estimating a second multi-path by applying a second threshold value to a correlation function of the second received signal in which the correlation noise has been removed.